HIT Policy Committee
NwHIN Power Team
Draft Transcript
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Presentation

MacKenzie Robertson – Office of the National Coordinator

Good afternoon everyone. This is MacKenzie Robertson in the Office of the National Coordinator. This is a meeting of the HIT Standards Committee's Nationwide Health Information Network Power Team. This is a public call and there will be time for public comment at the end and the call is also being transcribed so please make sure you identify yourself before speaking. I'll now quickly take roll. Dixie Baker?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I'm here.

MacKenzie Robertson – Office of the National Coordinator

Thanks, Dixie. Tim Cromwell? Floyd Eisenberg? Ollie Gray? David Groves?

David Groves – HealthBridge – Executive Director, Tri-State Regional Extension Center

Yes.

MacKenzie Robertson – Office of the National Coordinator

Hi, David, thanks. Arien Malec?

Arien Malec – RelayHealth Clinical Solutions

I'm here.

MacKenzie Robertson – Office of the National Coordinator

Thanks, Arien. David McCallie, I know, is unable to make it. Nancy Orvis? Marc Overhage?

Marc Overhage – Siemens Healthcare

Present.

MacKenzie Robertson – Office of the National Coordinator

Thanks, Marc. Wes Rishel? Cris Ross?

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

Here.

MacKenzie Robertson – Office of the National Coordinator

Thanks, Cris. Are there any ONC staff members on the line?

Todd Parnell – 5AM Solutions – CTO

Todd Parnell.

MacKenzie Robertson – Office of the National Coordinator

Thanks, Todd. Okay, Dixie, I'll turn it to you.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

All right, thank you all for dialing in. I know we had some hectic e-mails exchanged this morning and it was, as MacKenzie and Todd will attest, it was even more hectic yesterday. So, I'm really glad this meeting came together today, it is great. We have really two main things we're going to talk about today, the first about an hour, the ONC asked us to examine and listen to the work that's being done in developing a RESTful exchange protocol. This is a direct result of one of the Power Team's recommendations from last summer activity, we recommended that there be a third option in addition to Direct and exchange that would be based on the RESTful style of exchange and that's what that work is all about. So, I'm eager to hear that.

I know some people have been following that including David McCallie has been following that fairly closely, but it will be relatively new to me to hear what they're doing, so I'm looking forward to that. I've asked them to structure their presentation around the criteria and attributes that we have identified and they've done that, they've done a good job of that, so I appreciate that, so that we can also use it as sort of some feedback on how well those attributes fit, are going to work as a set of evaluation criteria.

Following that presentation we are going to discuss some of the inputs that we got from the Standards Committee last week. I took notes as I was presenting and I also listened to the transcript and captured a couple of kind of key points that came back from the committee that I think that we need to examine and figure out whether we need to make any changes to it to address them.

And then we're going to begin our discussion of the example evaluation, we have decided to use the HL7 context aware knowledge exchange I think it is or as commonly called the InfoButton, specification as our test case and so we're going to…Todd is going to lead us through a worksheet that he has drafted and we'll talk about how we're going to go about doing that and we'll leave a few minutes at the end for public comment.

So, without further discussion are there any questions about that? Okay, I think our presenter on the RESTful protocol, we're ready to start the RESTful protocol, the RHEx, RESTful Health Exchange overview, is it Mary that's going to be presenting?

Mary Pulvermacher – MITRE Support for Federal Architecture Program – Project Manager

So, I'll kick it off and then turn it over to Andy. So, can you hear me okay?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Thank you, thank you and thank you all for presenting to us today, we really appreciate it.

Mary Pulvermacher – MITRE Support for Federal Architecture Program – Project Manager

Thank you for the opportunity. So, my name is Mary Pulvermacher, I'm with the MITRE Corporation and I'm the Project Manager for MITRE Support to the Federal Health Architecture Program. For those of you not familiar with MITRE we're a Non for Profit Organization chartered to work in the public interest and we work on several Health IT initiatives across ONC and the Department of Health and Human Services.

But, we're here today to talk about the RESTful Health Exchange Project or RHEx as we call it and we're honored to be here today to talk to the Power Team since, as Dixie Baker just mentioned, it was your recommendation that led to this work, this exploratory task and we're real excited about this work and feeling very privileged to come back to you and talk about what we're doing to help inform a path forward on how a RESTful Health Exchange might work. So, we want to thank you for your leadership and foresight in this request.

The technical lead for the implementation in the pilots that we're doing is Andy Gregorowicz and he is going to be briefing, but before turning it over to Andy I want to introduce Dr. Lauren Thompson who is the Federal Health Architecture Program Director. Lauren?

Lauren Thompson – Federal Health Architecture – Director

Thank you, Mary. I just want to say thank you to the Power Team for allowing us time on your agenda here today. I think this is really important work, we're excited to have the opportunity to pursue it and I'll be very interested to hear your feedback after Andy goes through the presentation. So, with that I'll just turn it over to Andy.

Andy Gregorowicz – MITRE

Okay, thank you very much. So, this is Andy Gregorowicz, can I have the next slide, please? So, here is a brief outline of what I plan on covering today, we're going to have an overview of what we're trying to achieve in RHEx. We'll talk a bit about our approaches to security and privacy as we work through the RHEx Project. We'll then cover some of the work that we're doing in fiscal year 12 with piloting some of the approaches that we are building in the RHEx Project, what we see as outcomes from this project and how we're approaching… one of those outcomes would be standards profiles that we see that we plan on putting together and those will be available for folks to work with going forward.

Next, as Dixie Baker mentioned, the project has taken a first pass at running through the standards readiness test case, so some of these standards that we're evaluating in the RHEx Project we put through the paces of the standards readiness test and we'll discuss a little bit about that and then finally where the RHEx Project is going. And if anybody has any questions during the course of the presentation please feel free to chime in. Next slide, please.

So, what is RHEx? RHEx is an open source project, our goal here is to have everything be very open and transparent and the goal of this project is to apply proven web technologies or technologies that we've seen work well on the web with a focus on simplicity and using them to exchange health information.

This program has been sponsored by the FHA and it's being divided up into two separate phases, one is up front we're focusing on how we can put a security approach in place and really what that means is we're looking at how can we make sure that anything that happens is encrypted as it goes across the wire in transit in a RESTful approach. How can we convey identity in a RESTful fashion that works well with other protocols that are available now?

And then the second phase of this focuses on a content approach. So, how do we actually structure the content that we would want to exchange in a RESTful interface? How do we work with existing standards out there like consolidated CDA to exchange those in a RESTful fashion.

As Dixie Baker mentioned, this is really truly a response to suggestions or recommendations by this team that were produced last summer. So, the federal partners heard this need and they wanted to lean forward and provide an exploratory project that would look into how can a RESTful approach be applied to health data exchange? Next slide, please.

So, what is the approach that the RHEx Project is taking? One of our goals here is really to apply existing standards; we don't want to re-invent the wheel or come up with things on our own if we don't have to. So, what we were looking to do is refine existing standards and fit them into the NwHIN portfolio. Our goal is to start with the simple protocol that drives the web being HTTP and then we want to layer on proven open standards for identity management and in those identity management standards we want to be able to allow users to authenticate and participate in data transactions as well as services.

One key piece of this is that we want to be able to test some of this stuff in the field so we don't just want to sit down and theorize about what protocols might work well or what extensions to existing standards might be necessary. We actually want to take what we put on paper and actually field it with a software implementation and have organizations pilot it, organizations outside of MITRE or outside of FHA that they can come in and be able to work with the approaches that we're proposing and tell us what we're glossing over or what we may have over constrained, let us see what works and what doesn't work.

The last important piece to that that we think is key is we also are implementing a conformance testing framework, so any of the artifacts that we produce out of this project that would talk about profiling existing standards, we want to have an automated tool that has the ability to check conformance to those standards so that whether it be any team that would come after us and pick up any of these standards profiles they would be able to have a tool that would be able to evaluate the implementation that they've put together and tell them in an automated fashion whether they conform to the profiles that we have put forward or they haven't.

We feel like this will help in interoperability with these profiles as they go forward and we feel like it also is a great check for the RHEx Team as we are developing these profiles to make sure that they are testable, that this could feed into something like a certification process down the road. Next slide, please.

I apologize, my screen just locked on me, okay, so as I mentioned we are piloting RHEx in two separate phases in this fiscal year, the phase one focuses on the security approach. As I mentioned, what we're focusing on here is really securing web interactions and those are key because we don't see those being addressed really well by some of the existing protocols that are out there. And specifically we're looking for web and mobile friendly ways of exchanging identity information, and for authorizing access to services for users.

So, we want to be able to enable mobile devices to access healthcare information whether you're a patient or a provider accessing patient information on their behalf, we want to establish a way to allow those transactions to happen. And we're seeking community input on how we're doing this work. So, I don't know if folks were able to participate this morning, but we've been running bi-weekly WebExs, I think we'll cover that later. We have a wiki available on the S&I Framework. We have a Google group's mailing list that we have open for discussion.

So, as we're proposing approaches to exchange identity and authorize transactions in a RESTful interface we're really trying to put these approaches out there for the public to see them and provide feedback, and take that into consideration.

Once we establish that security layer where we have the ability to ensure that we know the parties that are exchanging information and we know that the information is safe as it flows from one party to another that is when we move into phase 2 which really talks about how do you structure that interaction? How do you move from just it being a human in the loop using a web browser to being able to seamlessly transition over to a piece of software acting on behalf of that human? How do you deliver content in a fashion that makes sense for the device?

So, how do you deliver a document format like XML to a server in the back-end versus something that might be easier to digest on a mobile device like a JSON format? How do you structure where everything would go in a RESTful application, patient summary versus lab results, where do you structure where that lives in the web application? Those are the types of problems that we are exploring in phase 2. Next slide, please.

Marc Overhage – Siemens Healthcare

May I ask a question here? You talked about an identity but for many of these things we need more than identity, we need to know for example role.

Andy Gregorowicz – MITRE

Yes, and I would consider that part of identity.

Marc Overhage – Siemens Healthcare

Okay.

Arien Malec – RelayHealth Clinical Solutions

This is Arien, one of the terms that I found useful is identity versus identity attribute and identity attributes as being separate from the authorization. So you may say that Marc Overhage is a physician, is accredited at this organization, those are identity attributes and those might add up to an authorization to access some information.

Marc Overhage – Siemens Healthcare

Right.

Andy Gregorowicz – MITRE

Okay, and actually we can dig into that a little bit on the next slide. So, if we can…so to expand on that a little bit when we're talking about identity and I like the term identity attributes, to start off at a basic layer we're talking about using HTTPS so that is encryption over the wire, so using TLS and SSL on top of HTTP. And then our next layer is to use proven open standards for identity and authentication.

And when we're talking about identity and identity attributes one of the standards that we've been looking at for that is OpenID Connect which is a standard that allows you to have distributed identity management and user authentication. So, OpenID Connect allows you to take identity, you can have different identity providers so you can imagine that the VA could be an identity provider and that identity provider would allow that VA identity to be able to be carried to somewhere else, so if a VA doctor wanted to access information at a private practice, if the private practice trusts that identity provider then that VA identity and the identity attributes would be able to flow into that private practice.

So, when we're talking about identity attributes we are discussing things like clinical role or other attributes that might be much more mundane like the direct e-mail address, are able to flow forward using something like OpenID Connect. It's also important to point out that those identity providers actually fit in quite well with the model of a direct HISP and so you can see where an identity provider and direct HISP actually could be co-hosted and co-located.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Andy, this is Dixie, you know, identity versus identity attributes is very simple but I think it's important to make sure that we mention the third thing, there is an individual's identity and there's the authentication of that identity, and then there's the attributes that are associated with that authenticated identity. And, you know, identity and authentication of identity are two different things and I think it's important that we mention all three of them.

Andy Gregorowicz – MITRE

I agree wholeheartedly and to that point, that question came up today, we had a WebEx earlier today on the use of OpenID Connect and how it would fit in with all of those different pieces, so OpenID Connect, the identity provider is responsible for authenticating the user and then… so there is… you know, there is obviously authentication of the identity there and you can get into missed level of assurances as to, you know, what's the scrutiny that that identity provider would have to apply before they would then authenticate that particular user.

You also have to… we also have to talk about a trust model, so you have to determine whether you trust a particular identity provider to provide that identity or even identity attributes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Now you're getting into identity proofing, which is yet a fourth thing. My understanding is OpenID Connect both encapsulates an identity and does the authentication of that identity that has been already, you know, issued through, you know, identity proofing upfront, off-line, etcetera, but can you confirm that, that it does both, you know, provides the identity and provides a method to authenticate the identity?

Andy Gregorowicz – MITRE

Yes, it does provide the identity and it does provide a method for… well, it will provide you a way to put in an authentication method.

Arien Malec – RelayHealth Clinical Solutions

Yeah, it… so, this is Arien, it doesn't do the…if we decouple identity assurance, identity authentication and identity attributes my understanding of OpenID Connect is that it's primarily authentication and identity attributes in a federated model.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, it basically replaces… it's an alternative to a digital certificate?

Arien Malec – RelayHealth Clinical Solutions

It's really an alternative to SAML, it's sort of a lightweight JSON-based alternative to SAML is my understanding.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, I think the OAuth is the alternative to SAML.

Arien Malec – RelayHealth Clinical Solutions

Yes, so OpenID Connect is built on OAuth, so OAuth is kind of a flexible Auth/Auth framework for REST.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, but that's the part that's equivalent to SAML, right? So, I'm trying to figure out in TLS there's an exchange that is wherein usually you have a digital certificate that enables you to authenticate one or both ends of the exchange. If we use OpenID Connect does it replace the need for a digital certificate for that purpose?

Andy Gregorowicz – MITRE

The need for a digital certificate to identity an individual?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

No, no, when you set up a TLS, the way TLS works when it does the hand…

Andy Gregorowicz – MITRE

Oh, sure, if you wanted to do two-way TLS then no OpenID Connect would not replace the need for additional certificate if you wanted to do two-way TSL.

Marc Overhage – Siemens Healthcare

How can you not do two-way though?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, how can you not do?

Arien Malec – RelayHealth Clinical Solutions

So, sorry, let me see if I can clarify, one way TLS is normal TLS that is a secure channel and authenticates the…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Server.

Arien Malec – RelayHealth Clinical Solutions

The server. OpenID Connect provides a federated mechanism for trusting or for authenticating a particular identity. So, it would substitute for two-way mutual Auth if you're using TSL with mutual Auth as a way of ensuring that you trust the client server or the client connection.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

The client? So, you could do… so you still need a digital certificate for the server to authenticate the server and then you run this OpenID, well OAuth on top of that and then OpenID Connect on top of that and that would…OpenID Connect would replace the need for a digital certificate on the client?

Andy Gregorowicz – MITRE

Is the client that person that you're trying to convey an identity for?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

A client is using a machine, the machine the person is working on.

Andy Gregorowicz – MITRE

Yes, yes, then yes it would…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

…

Andy Gregorowicz – MITRE

Yes, yes, potentially it would replace the need for that.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

So, Andy, this is Cris, coming out from the other side then, if you could describe, and I think we've talked about this before, how would an entity use the OpenID Connect and then the pieces behind it, OAuth 2 and the digital certificate in order to provide organization specific permissions and roles? So, if the OpenID Connect and the other pieces are being issued by some other entity, but I know that I can trust them, because I understand the authentication pieces and all the rest. How would I attach roles and authorized, you know, access to one of my users if I was using OpenID in order to manage that?

Andy Gregorowicz – MITRE

Sure, so if you were building a service and you allowed people to log into your service using OpenID Connect then what would happen is if you trusted the identity provider that the user was coming in with, that the user was authenticating themselves against, then using OAuth 2 in your service would then be able to access the identity provider to interrogate for attributes about that particular user, for identity attributes about that particular user, which could include things like their role or, you know, any other information that you would want to put in there.

And then it would be up to your system, at least at this point, to make an access, you know, sort of an access control decision from that point on, so then you could do something as simple as white list a particular identity or you could do something much more complex like have a, you know, particular role and particular facility or something like that, that you would allow to access pieces of information.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

And the activity of identifying someone and who they are and what they might do, for my organization and how that might be included in the OpenID Connect identity, are those completely separated? I mean, can I not tell anything about the user except that they have an OpenID or is the person who issues that credential provides some information that I can use within my environment.

Justin Richer - MITRE

They can…sorry, this is Justin Richer from MITRE, if I can…if you don't mind me jumping in on that?

Andy Gregorowicz – MITRE

Oh, no go for it, Justin.

Justin Richer - MITRE

All right, so what basically ends up happening is that the person that's doing the local authentication, so they would be validating the certificate or the user name and a password, or whatever and the providing the OpenID Connect federation transaction they can actually provide all kinds of different information about how that user got in the front door. And OpenID Connect provides several mechanisms for transferring this information including mechanisms that bind it to the session, so kind of, you know, sort of shorter term, how people are here today, and also longer term of, you know, what are people's rights and roles and responsibilities that might be a little bit more stable.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, what I'm hearing, I think I'm hearing, I'm trying to layer this in my mind, if you really wanted secure authentication of both ends of a transaction you still would use digital certificates at that transaction level to set up the TLS and then this OpenID Connect and OAuth 2 would be at the individual person level and would ride across that secure channel.

Justin Richer - MITRE

That is one way to do it, but it's also… you don't strictly have to do a two-way TLS, because…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Right, in some instances you do, I realize that's the policy… in all cases you would do the server but in some cases you would want…if you really wanted to identify… authenticate the identity of a hospital let's say, you would want to use two-way.

Justin Richer - MITRE

Right, and you still can do that using all of the OAuth protocols because they're built on top of HTTP which is in turn built on top of TCP which can use TSL.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Right.

Justin Richer - MITRE

And, so yeah, you still have the ability to do that, but what these protocols do or one of the best things that they do in my opinion, is that they allow you to have a level of security and a pretty good level of security without having to go through all of the rigmarole of setting up two-way TLS.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, yeah, but this doesn't… this is at the person level it's not at the software level whereas TLS is down there between the client and the server and, you know, so that is still really important to authenticate the end of that transaction, you know, when you set up TLS, TLS doesn't know about people and it shouldn't, but that authenticating the two ends of that secure channel is still really important.

Justin Richer - MITRE

Right and TLS also doesn't know about applications and I would…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Right.

Justin Richer - MITRE

Raise that issue as well, and if you want to look at the stacks TLS knows about really the machines that are talking across that socket.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Right, right.

Justin Richer - MITRE

And so why we're issuing personal certificates for people to have personal two-way TLS transactions with a personal certificate for the client-side, I don't know because that's making TLS care about the person and it shouldn't.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, it doesn't care what goes across it, you know, you're just establishing…

Justin Richer - MITRE

It doesn't care what goes across it but the application that is processing the client cert and using that as a user authentication on the far end does.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, yes.

Justin Richer - MITRE

And, to me that's always felt like a strange impedance of its mismatch. Now OAuth concerns itself with the application layer, it's all about… all OAuth really cares about is getting that authorization and, you know, Andy is going to talk about this, but it cares about getting that authorization across the wire in the form of a token. OpenID Connect as a standardized API and OAuth protected and TLS protected API for getting identity and attribute information across the wire.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Of an individual?

Justin Richer - MITRE

Yes of an individual or potentially of an organization, but most commonly of an individual.

Arien Malec – RelayHealth Clinical Solutions

Could you do it at the organizational level, that is could you do in OpenID Connect assertion about general hospital.

Justin Richer - MITRE

You could, but what would happen is you would still have a person that it would be happening on behalf of most likely.

Arien Malec – RelayHealth Clinical Solutions

Sure.

Justin Richer - MITRE

And they would have attributes as part of either their session token or their profile that would bind them to that organization and you may make all of your authorization decisions based on those organizational attributes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, so we have the same issue, it's just two levels in the stack, but it's the same issue of whether, you know, organization versus individual. Okay, that's really helpful to me, thank you.

Arien Malec – RelayHealth Clinical Solutions

I just want to ask one follow-up question about that which is in many cases in healthcare you've got a role, a delegated or a proxy role where the identity isn't to a person, to a carbon-based life form, to a human, but maybe to a referral coordination role, it may be to a lab in-box etcetera, and so I'd be interested to see whether OpenID Connect could handle that kind of use case.

Justin Richer - MITRE

Yes is the short answer.

Arien Malec – RelayHealth Clinical Solutions

Okay.

Justin Richer - MITRE

So, the slightly longer answer is that as soon as you start treating roles as claimed attributes that can be verified then a lot of it really starts to fall into place.

Arien Malec – RelayHealth Clinical Solutions

Yes.

Justin Richer - MITRE

Basically don't treat them as a special class because they're kind of not.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Are they context specific?

Justin Richer - MITRE

They may be.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay.

Justin Richer - MITRE

Because they're attributes. The attributes aren't necessarily static profile on users. They're whatever…so the way that these attributes work is that, as Andy was saying, you get this authentication or this access token through the authorization protocol, you get this access token and then you throw it over to a protected end-point and it spits back a JSON document that tells you all of the attributes, effectively, that are associated with that token.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

For that institution or for that application or whatever?

Justin Richer - MITRE

Exactly, and in the normal sort of user logging in case that the OpenID Connect protocol specifies on its own, that's things like, you know, how do you spell the person's name and what's their e-mail address, and what's their phone number, because that's the basic identity login case. However, it's very explicitly open to things like, you know, what is your current role at the time that this token was issued or even, you know, right now, you know, what organization are you a part of? What clinical role do you have?

And there is also an advanced capability called distributed claims that allow you to even farm some of that off onto trusted third-parties. But, I don't want to get too deep into the weeds here and especially don't want to take the reins away from Andy too much.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Thanks.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

So, this is Cris, just one last question. I haven't been reading ahead and maybe you're going to talk about this some more, but just so that we can record it for purposes of kind of our records and our thinking, why did you recommend, this is a softball question, why did you recommend OpenID and OAuth 2 as opposed to something else? Is this really in your view the de facto security standard for HTTPS? Can you just comment on that a little bit about why are we here looking at these standards?

Andy Gregorowicz – MITRE

Sure, well, you know, we really see this as being some of the clear winners right now emerging on the web, you know, especially if you look at something like OAuth 2 that is currently being used by companies like Google and Facebook, it's being used in places like E*Trade, these are very popular protocols and if you look at OpenID Connect while that doesn't see as wide an implementation we certainly see a number of large industry players at the table, again Microsoft and Google, Justin can certainly speak to a number of the other member companies in the Workgroup, but clearly we're seeing a huge group within industry behind these protocols pushing them forward and pushing them towards maturity. So, we feel like we're behind some protocols that have some great weight behind them.

Arien Malec – RelayHealth Clinical Solutions

So, this is Arien, and just to follow-up on that, I mean, it seems pretty clear that OAuth 2 has a significant level of maturity or a rising level of maturity in the internet space or in the web space. It seems to me that OpenID is a little stagnant and there is an interest in organizations to build a next generation OpenID on top of OAuth 2 and that's the space that OpenID Connect is in. It's not clear to me that OpenID Connect has the same level of standards maturity that the underlying standard of OAuth 2 has. And, I'm wondering whether you think that's fair or not?

Justin Richer - MITRE

I will agree that that's actually absolutely true. OAuth 2 is further along in its own standardization process than OpenID Connect is. However, OpenID Connect is like, you know, 85% OAuth.

Arien Malec – RelayHealth Clinical Solutions

Right.

Andy Gregorowicz – MITRE

And actually, Arien, to kind of highlight your point, I think that will come out when you look at the additional slides that we have and we kind of… the criteria that this team has put together actually kind of shows that when we went through the questions that were put together.

Arien Malec – RelayHealth Clinical Solutions

Awesome.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Just FYI, during last summer's Power Team exercise we identified OpenID, OAuth 2.0 and OpenID Connect as emerging alternatives especially for SAML. So, you know, that was our primary alternative we identified. So, it does have some continuity here.

Justin Richer - MITRE

Excellent, and I just wanted to follow-up with the person that asked before, if anybody wants to go over how different parts of this are equivalent to different parts of SAML we can pick up that thread later, I wasn't on the phone earlier to be able to chime in.

Arien Malec – RelayHealth Clinical Solutions

I think that would be really useful but maybe off-line or as a…

Justin Richer - MITRE

And that's fine, the real take away is that the standards that we're talking about specifically OpenID Connect, OAuth 2, JSON web tokens and a few other pieces here like the OAuth 2 assertion straps that Andy is going to be mentioning here, I'll speak to different parts of what the giant SAML stack does.

Marc Overhage – Siemens Healthcare

This is Marc Overhage, I guess the other thing I'd be interesting in hearing is, as we on this group have been thinking through how do you sort of measure adoption and use in the world OAuth 2 and I know this is out of my expertise realm, so this is on the fringes of what I know anything about much less something I know a lot about, but, you know, my sense is that, as an example, and what I'm looking for here sort of follow-up on Dixie's question of how… or I'm sorry, whoever asked the question, about how we sort of got to these, is OAuth 2 seems fairly volatile right now with folks like Facebook using it, but using a year and a half or two year old version of the spec, when I've tried to use the APIs you can't go implement the stack on two M's and have them talk to each other, it's really a heavy list integration unlike OAuth 1, at least what I've seen of trying to do it.

So, you know, one of the challenges you run into is like this where OAuth 1 is, you know, pretty broad, worked well, easy adoption. OAuth 2 strikes me, while it's been around for a while is still in its infancy and is so radically different in the way that they treat tokens, you know, in the way they manage expiration, the level of security it likely provides, because it's entirely dependent on the TLS security now in OAuth 2, as I understand it, I kind of go Argh. So, maybe you should talk a little bit about how you, you know, how you think about that in terms of adoption and use when there are some… Facebook using OAuth 2 but using a year and a half old version.

Justin Richer - MITRE

So, I take it you read Erin Hammer's post this morning?

Marc Overhage – Siemens Healthcare

No, it sounds like we're kindred spirits though.

Justin Richer - MITRE

Okay, yeah, so, yeah Facebook is kind of a funny story and it's too much detail for this call I'm afraid, but at the end of the day when people are actually implementing the final OAuth spec then it will be cross compatible between different pieces. And the thing about OAuth 1 is that it was trying to solve a bunch of different use cases in one model in a stack and it was never quite a good fit for everything.

Marc Overhage – Siemens Healthcare

Right.

Justin Richer - MITRE

OAuth 2 instead is a bunch of modules that you can put together in different ways. And, yes if you do pick different modules on either half they're not going to talk to each other but if that's the case then your APIs probably aren't going to talk to each other either.

Marc Overhage – Siemens Healthcare

Yeah, I guess the take away for me is… I mean, when… at least for the dimensions that we've been thinking about trying to evaluate these things on, I don't get warm fuzzies about OAuth 2 in terms of implementability, in terms of maturity, even though it's been out there for a while and being worked on.

Justin Richer - MITRE

Well, so here's another thing about OAuth 2 versus OAuth 1, OAuth 1 was developed in a dark room.

Marc Overhage – Siemens Healthcare

Sure, yes, transparent and public.

Justin Richer - MITRE

…public as fully formed. OAuth 2 was developed in the open and people started adopting it before it was fully baked, which is how you get cases like Facebook and GitHub honestly implementing earlier versions of the spec and not quite keeping up with everything, that was a risk that they decided to take, and…

Marc Overhage – Siemens Healthcare

Well, but it also underscores, you know, one of the things that Wes Rishel for example keeps reminding us to look at the new standards as sort of the ability to have sort of migration strategies that don't require everybody to move at once, you know, here's one that requires everybody to move at once, you know, so in many ways this feels like it goes against many of the principles that we were trying to lay out, but again, I don't know enough about it to say that with any confidence.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I have a more basic question, this is Dixie again, our recommendation was to develop a specification for a RESTful transport that would be a third alternative to the SOAP-based exchange and the SMTP-based direct and it seems to me what we're talking about here is much more than a transport, it reaches up higher in the stack than just transport. So, I'm wondering why you decided to go to the user level on this transport that was supposed to be analogous to the other two.

Arien Malec – RelayHealth Clinical Solutions

Dixie, this is Arien and I'm probably, I think David and I are probably guilty, if it is guilt, on this and maybe I'll get a crack at that and then give it back to the MITRE folks. So, when we looked at the exchange space one of the reasons that people look at SOAP as being a dominant platform for solving health information exchange needs is primarily because SOAP comes with a well-defined mechanism for security, assertions with WSSE and in particular a well-defined mechanism for federated authentication and identity attributes of SAML.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Not of individual users, that's my point, not of individual users. They're authenticating the two ends of, you know, the connection to a service but they don't know anything about people.

Arien Malec – RelayHealth Clinical Solutions

SAML does federated, SAML does in the way that exchange does it; SAML does federated assertions about the user or role on behalf of whom the transaction is being…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, the user role, but they don't know anything about Arien and Dixie.

Arien Malec – RelayHealth Clinical Solutions

That's right. So, I think it would be a bad thing if you had an identity, an authentication framework that always required you to go to the individual user level, because I think we know, we've had this discussion so many times that we know that if you don't solve an organizational identity and role identity that you're not likely to get very far, but the notion was if you can solve the security and authentication, and then potentially the authorization problem in a generalized way in REST you don't need to go all the way up the stack in the way that XTS does of sort of embedding all of the layers into a complete transaction, that you can actually get a lot done by saying, look here's a well established way in healthcare of doing transport, which is HTTP, transport level security, which today is HTTPS, and then the trick of identity authentication and authorization, and that you don't need to…and that should be sufficient for establishing a whole bunch of use cases. So, I'm going to pause there and just…that was the discussion that I think led into this correction. I think it would be…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I would say you're making it more complex than it needs to be and also constraining the use cases, you know, where the exchange is not between two people, it's between two applications let's say.

Arien Malec – RelayHealth Clinical Solutions

So, Dixie, I would totally agree if that's where we ended up then we don't have the right requirements and we're not meeting the right requirements.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

Yeah, but, this is Cris, you know, I've had a chance to peek at this stuff a little bit and, you know, Arien and David and others run circles around me and so I try to just sort of sit quietly and not get woozy, and, you know, keep thinking what are we trying to do. I understand exactly what's being said, but at least from my naïve perspective I'm thinking ahead about what it is that we're going to talk about later in this meeting.

And in terms of goodness of fit, you know, comparing SOAP to this, you know, SOAP is going to be fantastic for well affiliated environments that have tightly bounded business practices and high level of need for synchronization, and other things. I mean we're talking about exchange between unaffiliated, you know, entities and individuals who connect with each other infrequently but when they do it's important.

So, in terms of a goodness of fit, I understand some of the merits and demerits of these particular identity, trust, authentication methods compared for instance to SOAP, but it just feels like we ought to keep our eye on, you know, why did we recommend REST transport in general anyway? And, it feels to me as though pros and cons exist, but it feels like this is a pretty darn good fit to a particular niche that we identified as needing something different than NwHIN exchange or Direct.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I guess I would disagree.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I don't think that this is comparable to the other two at all and if you have, you know, and interface engine that's sending a message off to another enterprise it doesn't know about people, it's not going to, you know, send over an OAuth assertion. And a lot of our transactions in health are not at the people level. I think it reaches too far up in the stack.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

Oh, I get it, okay.

Justin Richer - MITRE

If I can interject into that comment, OAuth itself doesn't know or care about people. OAuth is fundamentally an authorization protocol and so all that it's sending across the wire is something that says a token that says when you throw this at a protected resource you are authorized to do something that this token represents at that resource. It's not necessarily talking about a user, though it might, it's not necessarily making decisions based on who was logged in at the time that that token was issued, though it might.

The case that you're describing where you have strictly two different systems talking to each other directly and there is no user in the loop is colloquial termed as two-legged OAuth and that's something we're explicitly profiling in RHEx.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Why do you need the two additional legs if you have TLS?

Justin Richer - MITRE

There are no two additional legs there are only two legs.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

You said the two-legged…you know, what I need to do is to…

Justin Richer - MITRE

…two-legged OAuth where there is a user in the loop and you created an authentication triangle.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

Arien Malec – RelayHealth Clinical Solutions

Sorry, I'm wondering whether we can just move on here.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

Arien Malec – RelayHealth Clinical Solutions

And say that it's important that there be at least one simple way of doing organization to organization because the predominant use case in healthcare is organization to organization identity and that it's useful if you can also layer on top individual and role-based, but it would be, you know, just as a base requirement.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

Thank you, for that edit, I mean, this is Cris, I think the idea of not limiting our foreclosing ability to do individual or role authentication as you say is important, right?

Arien Malec – RelayHealth Clinical Solutions

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I agree, let's move on.

Andy Gregorowicz – MITRE

Okay, so next slide, please. So, we're testing this stuff out both OpenID Connect and OAuth 2, it's kind of funny where this discussion has gone, because we have two pilots that are currently ongoing, one of those pilots is looking at a consult and referral use case and this is a pilot that we're working on with Patrick, this would be a pilot that kind of focuses on the individual side where there's individuals in the loop being an individual primary care physician, referring out to specialized care to an individual specialist and that is currently moving along where we've had some initial successes testing out MITRE built software with Patrick built software and exchanging information using OpenID Connect and it's OAuth 2 underpinnings.

The other pilot that we're working on right now is actually with the State of Maine HIE and HealthInfoNet. This covers the server to server type transaction that we've also discussed as well where we're just using OAuth 2 to allow underserved areas of the State of Maine where their facilities might not necessarily have a large IT staff to support a large IT deployment, this allows them to use a RESTful protocol to send C32 documents to the State of Maine HIE and right now that pilot is on track for an August 31st demonstration. So, we'll continue to work with that group.

Marc Overhage – Siemens Healthcare

So, as part of that are you capturing any tricks about the resource required, I mean, there's sort of this implicit implication that RESTful interfaces should be more efficient to implement.

Andy Gregorowicz – MITRE

Yeah, well…

Marc Overhage – Siemens Healthcare

It seems to be skeptical based on sort of personal experience of that, so are we capturing that data?

Andy Gregorowicz – MITRE

Yes, we are capturing that as we go along and implement as we go through and implement both these pilots.

Marc Overhage – Siemens Healthcare

Great, that will be really helpful. The other question I have is it sounded like, I mean, you know, interoperability is always a tricky thing when you do it more than two-way and you talked about, you know, doing some testing between two organizations, it's always hard when you bring the third one in, so is that a next step in here somewhere, is the…

Andy Gregorowicz – MITRE

Yes, yes, I mean, ideally, you know, we've been soliciting other organizations to pilot with us. There's only so much bandwidth that this particular project has during this particular fiscal year, but that's something that we would be happy to entertain.

The other point I'll make about that is that part of our team is actually working on a conformance test kit and we're actually keeping them kind of segregated from the rest of the team so that, you know, what we're really trying to do there is build an independent, you know, yes it's still being built by the same team, but a somewhat independent conformance testing suite so that, you know, when a third-party does come in they should be able to just pick up the conformance testing suite run against that and if they pass that then they should be able to enter into the transactions, hopefully seamlessly, but, you know, of course there's still going to be rough edges that will smooth out as we pilot these sorts of things.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Let's move on we've fallen completely behind, I apologize.

Andy Gregorowicz – MITRE

Sure, sure, so next slide, please. So, what do we anticipate to have coming out of this particular year? We want to have a community dialog around RESTful approaches, we see this being an architectural style as being widely used and this team recognizes that as well, and we want to investigate some of these standards and see how they can best serve the Health IT community. And we want to do that by having a set of products to inform a path forward. So, we want to look at some of these existing standards and if we do find rough edges and we do get this sort of feedback this is something that the team wants to carry forward and say we feel that these standards are not mature enough yet or these standards will need a lot more refinement before we can carry them forward.

So, we want to do that level of exploration to carry forward what we feel and what the community feels is confident and mature and ready and what is not. We want to have a testable set of draft profiles for the existing standards, so that's another piece to address the interoperability issues. We are working on a profile of OAuth 2 to help constrain some of those pieces that may harm interoperability. We plan on publishing those profiles to our wiki very soon, they're going through the final drafts now. And in two weeks from today we'll have an open WebEx where people can come in and comment on those particular profiles. So, we want to have those available to the public going forward. And again, we want them to be testable.

And, as I've mentioned before, we also have this independent conformance testing tool that will test against those profiles, so if you build against an implementation using the profiles we put out we have a software suite that will tell you whether you conform or not. Next slide, please.

I've mentioned that we are seeking community feedback; we are going to be posting the profiles to the WebEx as I've mentioned or I'm sorry to our wiki. We are holding bi-weekly WebEx's, we had one this morning that covered OpenID Connect and OAuth. We will be having one in a few weeks that will again cover to OpenID Connect and OAuth 2 profiles that we are putting forward.

We are on the S&I Framework wiki and there's a link here in the slides, and also we have a mailing list that can be accessed on the link in the slide as well where there are ongoing conversations between the RHEx team and the community gathering feedback about the approaches that we're investigating. Next slide, please.

So, the next part of the presentation that we wanted to discuss is that, as you're all aware, there's a standards readiness test that this group put together and presented to the HIT Standards Committee last week and what we did is we went and performed a very preliminary assessment using the test case against OAuth 2 and OpenID Connect and you know, we really see this as kind of a draft of going through this, we're sure that some of the individual answers could be, you know, there could be a discussion around those, but we really just wanted to do this to kind of foster the conversation going forward. So, next slide, please.

Marc Overhage – Siemens Healthcare

Before you leave that though, I think this just underscores what I was saying before, because I think you're nuts to put OAuth 2 where you did given what we know. So, I mean, it gets to… I think, Dixie, it's sort of a lesson for us about how gray some of these categorizations can be and we may have to think about how to sharpen them up more.

Andy Gregorowicz – MITRE

Yeah, and so that's certainly some of the feedback that we wanted to bring forward to the group. I mean, you know, really in the backups to these charts you'll see the answers to the individual questions, but there is a lot of room for interpretation and how you want to answer some of those questions. So, one of the things that you can see here on this chart is that OAuth 2 is further along in the maturity and adoption phases than OpenID Connect is, but again, you may quibble with the positioning of those standards on that particular chart. If we can go to the next slide, please.

So, again this is not a vetted assessment, this is our cursory pass through the evaluation criteria. We did not list HTTP or HTTPS on this particular chart, although they are the underlying technologies or although it is an underlying technology for OAuth 2 and OpenID Connect, it's obviously a highly mature adopted and scalable technology.

OAuth 2 is an IETF draft; we've considered it high to moderate maturity and adoptability. Again, you could kind of argue with that saying that there are various drafts in deployment, that it is very widely deployed. It is reaching the finalization process within the IETF so that's why we characterized it where we did.

OpenID Connect, we characterized that as less mature on both…well less mature and less well adopted. We see people taking on beta versions of it or draft versions of it as it's coming through, it's further behind in the standardization process.

Marc Overhage – Siemens Healthcare

Didn't you say earlier that's a bad thing? When we were talking about Open and Auth you were talking about people adopting too early before it was finalized, that was a bad thing and now you're saying that's a good thing?

Justin Richer - MITRE

No, you're somewhat misrepresenting what I was saying. So, adopting early and tracking the standard through to completion is a good thing.

Marc Overhage – Siemens Healthcare

So, the key…

Justin Richer - MITRE

I mean adopting early and then walking away from the table thinking that you've got everything settled is a bad thing, because you're being left behind in that case by the wider internet community.

Marc Overhage – Siemens Healthcare

I understand the distinction.

Justin Richer - MITRE

…to think that they can get away with it.

Andy Gregorowicz – MITRE

And another point that I'll make about that is there needs to be, I think maybe adoptability is a bit too broad of a term here, but I think really the piece that we're looking here for is well testedness, you know, I think part of what… having early adopters adopting draft versions of the specification, what we're looking for here, and again this plays into maturity, I'm not sure how separable these axes are.

But, what you're looking for there is: Are they finding the rough edges, are they finding the gaps in these particular standards? You won't really find that if people aren't adopting some of the earlier versions of the standard and trying to put them into use, but, you know, again, I think, as Justin is highlighting here, that there's always a trade-off with that and that if you get on the train early then, you know, obviously you'll have to deal with all the revisions of the specification and you always run the risk of a player coming to the table and then implementing a specification and kind of leaving it in that sort of state where they had an older version and you kind of have to pull them along.

Arien Malec – RelayHealth Clinical Solutions

This is Arien and I guess what I'd say is that if we're having this conversation then by definition the standard isn't mature enough and I think very highly of OAuth, I think it's a good choice, but I also think that we should be… when we assess these things we should be a little cold hearted even to our own, you know, even to the ones we want to succeed.

And, then the other comment that I have about OAuth 2 is that it's a cluster of standards and the most adopted subset of OAuth 2 is federated authorization to a website, and there are other profiles for OAuth 2 or other modules of OAuth 2 that I think you might look as being farther down the stack, so OAuth 2 is an umbrella framework is in that moderate to approaching maturity trajectory, but there are aspects of or profiles for OAuth 2 that are probably a little farther down the stack.

Justin Richer - MITRE

I think that's a fair assessment.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I have a question, this is Dixie, you know, I think that, when we made a recommendation last summer we…and I even looked at our wording, we were recommending a RESTful alternative to Direct and exchange as transport, a third transport standard and so I certainly had in my mind, you know, something much more general than what this is. I'm curious to know whether, you know, you have a passed statement for this project that really defined what, you know, that bounded the specification that you were supposed to be developing, and if so I would be interested in seeing it.

Justin Richer - MITRE

Yes, actually we've put together a project charter and we had an open call, I believe, two weeks ago on the project. So, if you go to the S&I Framework website and go to the RHEx wiki we actually have our project charter available there.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay.

Justin Richer - MITRE

And we'd be happy to send that along to you as well. And, we've actually been having conversation on the mailing list about that charter, so it is in development and we would certainly welcome any feedback that you have about the project charter.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, all right, I can find it you don't have to, you know…

Arien Malec – RelayHealth Clinical Solutions

Dixie, can I ask a follow-up question to your question or are we too far over?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Arien Malec – RelayHealth Clinical Solutions

So, it seems to me that exchange… if you look at the mapping to exchange, exchange has a layered set of specifications all the way from HTTP and TLS.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, we weren't…no we were talking about just the modular exchange transport specification.

Arien Malec – RelayHealth Clinical Solutions

And that exchange transport specification also includes security, so the exchange messaging specification includes…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Right, but not at the individual level it doesn't.

Arien Malec – RelayHealth Clinical Solutions

Right, so that's an important… making sure that we're addressing machine to machine and role to role is an important… needs to be in the charter, but I just want to clarify that we all think that security, transport level security obviously, but also identity and authentication is…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, it's all important, I'm not saying, Arien, but what we were recommending, you know, we knew we would have… we had all these RESTful exchanges and connections happening all over the place, we knew that, and so we recommended and we knew that there was no single specification on how to implement secure RESTful exchanges. And that's what we called for a specification for, a secure RESTful exchange not something that addresses all of the problems that we… however important we think they are.

Arien Malec – RelayHealth Clinical Solutions

So, in your mind would it have been sufficient to say mutual TLS full stop.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Plus constrained to say, this is how we… this is how we… this specification describes how you implement a RESTful exchange securely, right. So, you have a uniform way to do REST because we don't have that now, we don't have that. So, that was a deficiency, everybody is doing their own thing and calling it all RESTful. So, it would be… this is the way to do RESTful exchange securely.

Andy Gregorowicz – MITRE

So, if I could kind of follow-up on where your comments are going. Are you thinking more along the structure of the service itself how you would advertise resources that are available, how you would advertise the representation of those resources?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, that's more than transport too. You know, I have a document, I have a CCDA document, I want to get it from here to there, how do I securely do that, and I'm not telling you how you build your service at the other end you can build however you want to, right? I'm not telling you how you advertise how to find it, you can do that however you want to, but I'm telling you if you say I have a RESTful interface to this… you know, way to exchange this document I can know that this is how that exchange was built and this is how it's secured.

Justin Richer - MITRE

Except that one of the key differences between REST and things like SOAP is that REST is not a protocol.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I know that's exactly right.

Justin Richer - MITRE

It's an architectural mindset.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And that's what we were calling for really, a specification for a REST protocol. So that everybody who did it would implement it the same way.

Justin Richer - MITRE

And in order for that to work you actually need to specify the different modules including the security, the transport, the encoding, and the query.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes, right, absolutely.

Justin Richer - MITRE

…RHEx…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

All of that, that would be… to me that should be included in it, all of that, right. It's not up to the individual level.

Justin Richer - MITRE

But, you can't do it without that.

Arien Malec – RelayHealth Clinical Solutions

Well, so there are some use cases… so, again, I think there are some use cases where at least in the exchange world people have needed to go up to at least the individual level. I think it would be inappropriate if that was the only way of doing it.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Right, but, you know, when I was in computer science school they taught me about layering, abstraction and data hiding, I think we're going up too many layers. We need a specification for the lower layers.

Justin Richer - MITRE

Which we are already doing.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

A use for those upper layers, you know, maybe later we develop that. I think that the comparable transport is what we were really after. But, you know, that's, you know, I'll review, you know, the documents and the wiki and that.

Justin Richer - MITRE

And, I just want to re-iterate that I believe we're being very careful to specify things.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay.

Justin Richer - MITRE

In layers, but we are addressing all of the lower layers in addition to making way for the individual layers and higher including personal consent.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Good, yeah, I think that's way it should be, that's how you build good systems.

Justin Richer - MITRE

Exactly.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

But, I have not read your… you know, I should be really fair and say, I have not read the specification. I have not participated in the wiki, haven't participated in the discussion, so the sum total of what I know is what you're presenting today and I really appreciate you presenting it as well. Are there other questions from the group? And I think you have an appendix here as well that has some really useful additional information, I would draw everybody's attention to it.

Andy Gregorowicz – MITRE

Yes, yeah, we, so if you look in the final slides in our deck in the backup charts we went through and filled out the maturity criteria and the adoptability criteria. We'd be happy to discuss those off-line. So, one of the pieces of feedback that we had is that additional clarification around some of the criteria would be beneficial because some of the answers were certainly in the guessing range just because we had to do a little bit of interpretation. And, again, off-line we can provide feedback on specific criteria elements.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

You know, just out of curiosity have you defined how to actually implement the RESTful transport in your spec?

Justin Richer - MITRE

That is part of what we are planning on covering in phase 2, but yes, we are looking at the hData standard for doing that.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Thank you. Are there other questions from anybody? Okay, I want to thank you guys, we really appreciate your taking the time to present this to us and we also particularly appreciate you taking the time to try to map it to our criteria and we will eagerly follow the progress of this project.

W

Thank you very much.

W

Thanks for the opportunity.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, Todd are you there?

Todd Parnell – CTO – 5AM Solutions

I am here.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay.

Todd Parnell – 5AM Solutions – CTO

I would like to get a copy of that workbook and that assessment, is that of how they self-graded, I would just like to see those comments and such. Do we have a form to receive those back?

W

What do you suggest? So, what we've provided in the back ups is the summary of the assessment and what we have is just some informal notes of places where the particular criteria, we had questions on interpretability of the, you know, interpretations of them, so do you have a particular format you'd like feedback in that we could…

Todd Parnell – 5AM Solutions – CTO

Raw notes are fine if you send them to me, Todd, I think you have my e-mail.

W

Okay, shall do.

Todd Parnell – 5AM Solutions – CTO

All right, who has control over the web session right now?

MacKenzie Robertson – Office of the National Coordinator

I think it's the folks at Altarum; do you need a different document uploaded? This is MacKenzie.

Todd Parnell – 5AM Solutions – CTO

No, this is the correct one, this…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I have it.

Todd Parnell – 5AM Solutions – CTO

…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I seem to have it too.

MacKenzie Robertson – Office of the National Coordinator

Okay, perfect.

Todd Parnell – 5AM Solutions – CTO

All right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Thank you, this is Todd Parnell and he's going to talk about some of the comments we got from the Standards Committee meeting last week, Todd?

Todd Parnell – 5AM Solutions – CTO

All right, let's go to the next slide. So, we just did RESTful exchange, the criteria feedback was in four main areas and continuity, optionality, standards development organizations and competing standards. So, we'll go into each of those and then we might be tight on time, but we will see if we can hopefully begin our evaluation exercise of InfoButton. So, let's go straight in.

This is just so everyone knows where we're at, we have the criteria, those have not been changing, the attributes, we have two new attributes to discuss today and the metrics associated with those attributes and then we're going to begin the evaluation process later today. Next slide. We just saw this, so let's go ahead to the next slide.

All right, so the first piece of feedback was around continuity and the notion is that a standard may be new and it may not be a revision of a previous standard, but it may have continuity with other standards and the example given was that CCDA is not completely new, there was organizing, re-organizing material but it was a progression from CCR and CCD and not completely new.

And so, want to try to capture that in a maturity of specification attribute and then, but Dixie and I when we talked about this, we found that there is tension, and I classify it as tension with separation of concerns and just to be clear is that it might be that something which is high on continuity would therefore rate lowly or lower on separation of concerns because we already have said that separation of concerns is competing standards and reference standards shouldn't solve the same business problems that would be a low with respect to separation of concerns.

So, here's what we have for maturity of specification continuity in low would be that the specifications do not extend or replace, or that the extended or replaced specification has a low maturity. So, you don't get high maturity by replacing a low maturity specification. Moderate would be logically extends or replaces another specification and the extended or replaced specification has a moderate or high maturity. And then finally, high continuity extends or replaces another specification with clear rationale of documented differences and extends or replaces the specification that itself had high maturity.

Arien Malec – RelayHealth Clinical Solutions

So, this is Arien and I have a slightly different take on this and I actually think the separation of concerns or Wes's comments on upward extendibility are right on. If I look at revisions to existing standards mature and well constructed standards allow for upward revision without breaking older systems. And I look at consolidated CDA as being a revision to a standard rather than a new standard. I also think it underscores one of the weaknesses of, at least the CCD approach, which is you had kind of template overload.

Todd Parnell – 5AM Solutions – CTO

Right.

Arien Malec – RelayHealth Clinical Solutions

Template identifier overload and so one of the things we needed to do in consolidated CDA was kind of clean it up and cleaning it up required breaking all of the template identifiers in creating a single template identifier per section. An ideal specification would be one where you can go to a new version without breaking existing implementations but allow the people who conform to the higher version to potentially get enhanced functionality.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, that's interesting, Arien, because the… you know, you're taking it from a different perspective than what Todd and I were thinking about and relative to Wes's comments, you know, Wes's comment was this is a good standard because it extends something that already exists and I think the measures that you're talking about are this standard will allow for extension without breaking it which are two… it's like looking in two directions. I think they're both important.

Arien Malec – RelayHealth Clinical Solutions

That's right and I wouldn't look at consolidated…I would look at consolidated CDA as being effectively CCD 2.0 plus, right?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, yeah.

Todd Parnell – 5AM Solutions – CTO

So, we do have and it's just not present on this slide, we already have maturity of specification and if you go to the appendix slides, slide 14, you'll see that stability is the metric immediately previous to that.

Arien Malec – RelayHealth Clinical Solutions

That's right.

Todd Parnell – 5AM Solutions – CTO

Before continuity, and I think that that speaks to the notion of revisions. Now, I don't think that it has…it does have stabilized releases, it speaks to that aspect. I think continuity was between standards that weren't explicitly revisions to each other.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, do you think, Todd, that we need to capture both direct…you think that direction is already taken care of, is that what you're saying?

Todd Parnell – 5AM Solutions – CTO

Right, I'm saying that I think that we have the upward, it does not say in our stability metric…it does not have the notion of upward compatibility, it does not say those words, but I think that the intent is in the stability piece and the continuity one was, I think, between… not between revisions of a single specification.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, I'm asking about the direction though specifically, whether it's a revision or an extension or whatever, you know, what we've suggested here, these metrics really look at the standard and say does it follow along in a smart way from, you know, previous… does that standard follow along the logical way from previous, you know, related standards or whatever, right? But the part that Arien's bringing up is does this standard that we're evaluating allow for upward extension from it.

Todd Parnell – 5AM Solutions – CTO

Sure.

Arien Malec – RelayHealth Clinical Solutions

I guess what I'm saying is questioning whether we need a continuity measure in that we've already got existing ways of measuring the goodness of consolidated CDA, it is a revision to an existing specification, so it would count high in dimensions of… those dimensions of maturity, it would count low in the sense that the revision broke existing or wasn't backward compatible with existing interoperability.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, you think this whole issue that Wes brought up is already taken care of?

Arien Malec – RelayHealth Clinical Solutions

That's my assertion…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Todd can you bring up the maturity of specification, the full set of attributes so that people can see that and…

Todd Parnell – 5AM Solutions – CTO

Sure, it's slide 14. I don't have control of the slides, of the presentation.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Oh, I might, let's see.

Todd Parnell – 5AM Solutions – CTO

It's slide 14.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I do, look at me, okay.

Todd Parnell – 5AM Solutions – CTO

Fourteen and fifteen.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Here's maturity of specification. We have breadth of support.

Arien Malec – RelayHealth Clinical Solutions

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Stability, which is one aspect you're talking about, degree of interoperability among independent non-coordinated implementations of it, adoption of a specification and… breadth of support.

Todd Parnell – 5AM Solutions – CTO

No, this is maturity now, technology now.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Oh, yeah, yeah, yeah, yeah, yeah, yeah, okay, so adoption of a specification.

Arien Malec – RelayHealth Clinical Solutions

And the reason that I'm pushing on this is that we know that the more attributes we have in our model the more everything is going to look alike.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes. I think stability is a big part of it.

Arien Malec – RelayHealth Clinical Solutions

Yes.

Marc Overhage – Siemens Healthcare

Could you explain that comment further though? I'm not sure I follow that, the more that we have in it the more they'll look alike.

Arien Malec – RelayHealth Clinical Solutions

So, you tend to see, you tend to see central limit tendencies, central tendencies when you have a large number of attributes that you're collecting, because you're going to score some high, some low, if you've got a lot of them it's rare that everything is going to be all high or everything is going to be all low, whereas the fewer number of orthogonal attributes that you have the more likely it is that you're going to be able to get clear scoring and not get central tendencies.

Marc Overhage – Siemens Healthcare

So, but is that… I guess my question though then is, so is that a reflection of the fact that there are not meaningful differences when you sort of take into account all the various things or is that a reflection of the fact that we haven't carefully enough prioritized the different aspects, because, I mean, it's sort of like saying that using a more… you know, sort of like, I mean, some of it you could argue, well so you're going to measure the width of the stove at the store but you're not going to measure the depth and so it may not fit very well in your kitchen, clearly you don't want to get to that level of not being granular, but, you know, if you don't care about the depth, if you just need it to fit between the cabinets and if it sticks out halfway to the island who cares, you know, that's a probably an organization question.

So, I'm not 100% sure I agree with your assertion, although I do agree, I mean, you end up when you start scoring things and you add them up, and you start losing discrimination because the question is why, is it because the scores are wrong, it is because the dimensions are unimportant?

Arien Malec – RelayHealth Clinical Solutions

So, I'd say two things. First of all, if you've got attributes that are similar but different like continuity is similar but different to stability and some of the other attributes that you have, that's going to be a bad thing, you want your attributes to be as orthogonal as possible.

Marc Overhage – Siemens Healthcare

Sometimes, I mean sometimes, you know, to me this is equivalent of constructing a patient assessment instrument like this of 36 or whatever, you currently have to… you may want multiple things that measure related aspects, that those need to be combined to get an orthogonal measure.

Arien Malec – RelayHealth Clinical Solutions

Sure.

Marc Overhage – Siemens Healthcare

So, maybe that's part of the stuff we haven't done yet.

Arien Malec – RelayHealth Clinical Solutions

That's right; that makes sense.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, Marc, do you think we need this extra attribute?

Marc Overhage – Siemens Healthcare

I guess, I'm, at least at this stage of developing this, my sense would be, you know, we just haven't done enough testing and evolution yet and I'd be loathe to throw out potentially relevant things until we've got a clear, you know "A" it doesn't add any information.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay.

Marc Overhage – Siemens Healthcare

Or "B" that we've got a better way to combine the pieces and I don't think we want to get too, to your point too, I think we've got to be careful not to get too whacky about the numbers, you know, I think, you know, to some degree this is a directional sense that we're looking for on these things, you know, I just think we're smart enough to know that a 3.74 is different than a 3.72…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, and we won't be assigning numbers at all, we'll be assigning low, moderate, high to each of them.

Marc Overhage – Siemens Healthcare

Right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, so for now, let's just leave it in there, Todd. Let's just add the continuity.

Todd Parnell – 5AM Solutions – CTO

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

For the…you know, for the test case that we're about to undertake.

Todd Parnell – 5AM Solutions – CTO

Yes. Is there any sort of wordsmithing or other smaller level, you know, changes that people would like to see now that we've accepted the concept in?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I think the stability takes care of the other end.

Arien Malec – RelayHealth Clinical Solutions

Yeah, let me think this through, so we would be definition rates say specification for a new area. HTTP would rate low on this criteria.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Why?

Arien Malec – RelayHealth Clinical Solutions

Because it doesn't extend or replace another specification.

Todd Parnell – 5AM Solutions – CTO

It replaces, Gopher, well that's when it was introduced, I mean, I don't know when you would have done the evaluation.

Arien Malec – RelayHealth Clinical Solutions

Sure.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, this is almost like if it extends or replaces something else then uses criteria…you know, then this attribute applies, huh? Yeah, why would you rate a specification that does not extend or replace another specification, why would you by definition rate that low in continuity? I'm not sure what we were thinking there.

Marc Overhage – Siemens Healthcare

Yeah, I'm not sure what we were thinking either, Dixie, but I wonder if maybe, you know, the thought is that you're extending or you're building on something else that transitions are smoother, that you understand where it's going, that you got more experience that your building on, you're really understanding what the problems are, I mean, I can imagine that being the thinking.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I think all of these are assuming that…I don't know. Todd, do you remember the thinking?

Todd Parnell – 5AM Solutions – CTO

I, well high and moderate were… so, my feeling on this one was that if it was truly a standard in a new area, giving it a low continuity was calling a spade a spade but then not holding that against the standard, I mean, again remember when we go up to the evaluation process you're allowed to make notes and other things about the impact of that low, so we may say that a brand new spec that's very important, that would rate low on continuity, because no one has ever…no spec has ever addressed this before, we would simply not consider that as impactful to the overall rating as something where we thought that it should have used or replaced an existing standard, should have had continuity with one.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

See, this is one where there actually should be an N/A but we don't have N/A for any of them.

Todd Parnell – 5AM Solutions – CTO

Right.

Arien Malec – RelayHealth Clinical Solutions

By-the-way Gopher and HTTP were both released at the same time.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

What?

Arien Malec – RelayHealth Clinical Solutions

Gopher and HTTP were both released at the same time.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Oh.

Todd Parnell – 5AM Solutions – CTO

Wow. I was just reaching back in my protocols. Maybe we just… maybe we don't have the low and we just leave that blank and give moderate and high, and allow an N/A for this one?

Arien Malec – RelayHealth Clinical Solutions

So, again, I go back to why wouldn't we… do we have adequately captured the, you know, the long tradition of this particular standard in existence, so SMTP has gone through multiple revisions from when it was first released until now it's got umpteen modules, it's got a long, long history. I think you can say the same thing about CEA and…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, breadth of support.

Arien Malec – RelayHealth Clinical Solutions

Breadth of support or history of support, do we have history of support?

Todd Parnell – 5AM Solutions – CTO

We have stability, like a highly stable, stabilized releases providing minor corrections, new core functionality changes and response to industry required…

Arien Malec – RelayHealth Clinical Solutions

Yeah, so maybe that's the dimension that we're missing, is the, you know, you raised HTTP as high maturity because it's been around for a long time; it's been, you know, it's been used in its current form for a long time. You would start to rate CDA-based formats like CCD as high or higher because they've been around long enough and have been used long enough that there's some level of comfort and understanding of them.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, you know, I don't think that continuity is a measure of maturity specifications, that's the problem here.

Arien Malec – RelayHealth Clinical Solutions

Yeah, that's right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

You might have one with high continuity but it just was released last week. So, I don't think it's…

Todd Parnell – 5AM Solutions – CTO

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

You know, I don't think it's a measure of maturity that it has continuity with something else. So, I think we should just take it off there.

Todd Parnell – 5AM Solutions – CTO

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And then we brought up, Todd brought up that this other attribute, let me see, there, do you want to talk about the tension with separation of concerns and whether that is…

Todd Parnell – 5AM Solutions – CTO

Oh, so we have the existing one, separation of concerns under ease of implementation, but if we're taking it out, I mean, I don't need to revisit separation of concerns, it was simply that if something was rated high on continuity it would therefore seem to necessarily have been rated low in separation of concerns and vice versa. But, since we're saying that continuity is not a measure of maturity of specifications this notion of tension with ease of implementation just wouldn't be present in our evaluation criteria.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, then let's just go to the next topic here.

Todd Parnell – 5AM Solutions – CTO

All right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Optionality, we talked a little bit about optionality last week.

Marc Overhage – Siemens Healthcare

We sure did.

Todd Parnell – 5AM Solutions – CTO

So, I tried to…these are from Dixie's notes, they have been anonymized to protect the innocent and the guilty, but, you know, these are some of the feedback that came out right, not optionality, not all optionality is equal, it is often undesirable but where there is… you know, but there have been good examples of optionality within specifications. So, there was a good example and a negative example and my understanding is that there was no specific edit to what we had for degree of optionality within our metrics, but due to the amount of discussion that this engendered then it was we wanted to have the Power Team read one more time what we had with degree of optionality and with the HITSC feedback in mind are there edits that we want to be making?

Cris Ross – Executive Vice President & General Manager, Clinical Interoperability Surescripts

So, this is Cris, I actually was thinking about this after we talked and I think the bullet point at the bottom of low is in the right direction but I'd say is maybe not there. The comments that we had indicated that optionality was a problem where there was a particular characteristic and I sort of interpreted that characteristic as where it creates an impedance mismatch of some type, where, you know, the example that Arien provided of E-Tag for HTTP is a place where it doesn't create any impedance problem, you can still function just fine, it's extra data that travels along for free and those who can use it can't.

And, I thought the example, the HL7 V2 content spec specifically got to the issue of impedance in some fashion and I'm maybe not using as good a word as we might like with impedance, but I think that was the issue.

Arien Malec – RelayHealth Clinical Solutions

So, I'm reading this again and maybe I understood… maybe I just didn't understand the first bullet in each of these areas where optionality exceeds requirements or implementation use case resulting in additional effort, I would think of good optionality as areas where there is a core set of functionality that is required and that core set is sufficient for the basic use case where there is a well-defined mechanism for using the optional features…for mutually using the optional features to achieve higher level use case and I'm wondering whether that is what this says. I'm just not understanding it.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

I think we were trying to say similar things, Arien, I don't know if you see it the same way?

Arien Malec – RelayHealth Clinical Solutions

I see it exactly the same way, I'm just wondering whether we've got a case of where the words want to say that and we just need to wordsmith the words or gloss the words.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

Yeah, I just thought the additional effort piece for example is not as germane or doesn't get to the core in the way that the…

Arien Malec – RelayHealth Clinical Solutions

Right, it's not the traditional effort, it's that you can't take the core… you can't take the required attributes and use them sufficiently to achieve a well-defined use case.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

Yeah, so it gets to, if the specification has pieces that are necessary for every party to deal with and adds optional pieces separate from it that there is typically not a problem; it's where the optionality gets in the way of the core.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I like your… and maybe creates impedance might… I mean that's exactly the point we need to capture. You know, Chris Chute last week said optionality has three flavors, things rendered as alternatives, things that are too hard and things that are interesting but not necessary or needed.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And he said one and three are not needed, like things that are just… here's a different way that you could do it or things that are just, you know, this is interesting but why would it be in the specification, you know, maybe we want to capture some of that flavor too.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

Yes, but in each of those instances it's where the cores are identical or are interoperable and where the pieces that are added can be thrown away as not useful by one of the parties, right? I don't care that this additional data is carried along, I don't care that I have some extra requirement to do some additional function, as long as I can just do my core activities.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Now I don't think we've captured… and the whole idea, I thought you meant by impedance was like, you know, I send you extra data and because it's optional you don't even know you have it.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

Yeah, that's what I am getting at, yeah; no it's exactly that, it's exactly that.

Arien Malec – RelayHealth Clinical Solutions

Right and if we… again, the other important part of that is that is we both implement the required bit we can fulfill interoperability whereas if you look at the world of lab interfacing that currently exist you can't pick the HL7 spec off the…or the implementation guide off the shelf and use it and implement the required bit and have the hope of interoperability for lab interfaces.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

What do we mean, Todd, at the high end, optionality exists to fulfill and support the required implementation use cases?

Todd Parnell – 5AM Solutions – CTO

So, I think that that's the alternative mechanism, is that…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Oh, is an alternative, okay.

Arien Malec – RelayHealth Clinical Solutions

Alternative or upgraded functionality. That's why I'm saying, I think the words want to say the right things; I just think we've got a wordsmithing issue.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I think that's what we should say, it's either and alternative way to, you know… but somehow we need to capture what Cris is saying, how the optionality actually could create impedance. Well, if you get extra data in and you don't know you've got the extra data it probably is not an impedance, you don't have any way… it would go through any way, but you just don't even know that it's happening.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

So, I think that's a case of non-impedance problem, right?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Versus the case where you implement it and machine it together and it chokes.

Arien Malec – RelayHealth Clinical Solutions

Right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, yeah.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

Right, right.

Arien Malec – RelayHealth Clinical Solutions

Smart optionality is essential for upward compatibility, lazy optionality is a recipe for non-interoperability.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, did give enough inputs there, Todd?

Todd Parnell – 5AM Solutions – CTO

Yeah, I'm trying to take notes, smart, I actually like that wording, smart optionality for upgrades or upward compatibility and dumb optionalities that…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

Todd Parnell – 5AM Solutions – CTO

Well, I'm just trying to capture the raw notes, I can always dumb optionality for, and now what was the…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Logically impaired would be, no.

Arien Malec – RelayHealth Clinical Solutions

So, I said lazy interoperability where you can't agree on the core.

Todd Parnell – 5AM Solutions – CTO

Okay.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

So, I think we probably want to give some examples, this is Cris, like a specification which allows, you know, additional optionality but where different parties who implement that optionality can ignore parts of it that are not relevant to them, but can rely on a core spec to always operate feels to me to be something like, you know, disciplined optionality.

Arien Malec – RelayHealth Clinical Solutions

Yes.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

I think we also want to use the idea that if someone uses an optional element in a way that they believe is mandatory that's also a problem, right? Essentially, if you don't fill in that extra data I'm going to throw away your message is not a good use of optionality either, right? Because, hey we all agreed that we were only going to fill out data elements A through H and this party implements an optional item I and says I'm not going to play unless you have option I, that's a barrier too, to interoperability as well. So, it would be misuse of optionality or somehow, you know, unilateral, you know, declaring that some optional item is going to be mandatory for participation of that entity.

Todd Parnell – 5AM Solutions – CTO

All right, well I certainly… I've captured a lot of notes I do think. So, here's what I'm thinking right now is that for low and high the last bullet point, we said, we think captured something important and we like, but what we're really talking about is the top two bullet points in each of low, moderate and high in trying to make sure that the ideas that we've just had in this conversation are reflected there. So, basically keeping the third bullet point low and the second bullet point in the high.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, no optionality exist to support implementation use cases resulting in additional effort. If no optionality exist it's not going to take additional effort.

Arien Malec – RelayHealth Clinical Solutions

Right, so I'd say a bad optionality is where if you implement all of the required features you still…you must also implement or decide on some optional features in order to implement core interoperability requirements.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Oh, yeah that the core…yeah, that's a good…

Todd Parnell – 5AM Solutions – CTO

You shouldn't have to choose optional in this space.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, yeah, that's a good point, yeah.

Todd Parnell – 5AM Solutions – CTO

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I don't know if that's what that is supposed to say, but that's a good point.

Arien Malec – RelayHealth Clinical Solutions

And then the other side of that is good optionality, it should also be very clear that if I select this option I know exactly what to implement and if somebody else selects that option we've got interoperability for the expanded use case.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

You know, the name of this attribute, degree of optionality probably isn't right, because it implies that there is high optionality at that end and what we really mean is optimal optionality, right? Because, in truth low optionality is a good thing.

Todd Parnell – 5AM Solutions – CTO

Yes.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

I just hope we don't ever find ourselves using the phrase optional optionality.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

Todd Parnell – 5AM Solutions – CTO

Mandatory, what we'll stick it between mandatory and required.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes. So, we might want to think of a new thing.

Todd Parnell – 5AM Solutions – CTO

Sorry.

Arien Malec – RelayHealth Clinical Solutions

We laugh but it's true.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

I mean this kind of conversation is actually a little bit tricky, because we're all trying to find the right words, but it feels to me as though we have danced around the periphery of this topic for a while and it feels like we're at the core here, at the center.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, let's see, did we have a third topic?

Todd Parnell – 5AM Solutions – CTO

Yes, we do.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Oh, the SDOs, yeah, the one Walter did.

Todd Parnell – 5AM Solutions – CTO

So, the feedback was that we had an author or authors and we used organization, organizations, but we had no explicit criteria that spoke to the backing or credentialing by a standards development organization and so this is, oh, it's not listed, but the SDO context is under maturity of specification and this is what I came up with for SDO contact, low for SDO would be standard not yet informal discussion by an national or international standards development organization, moderate would be under formal review and/or balloting and then high would be a formal standard approved by a national or international SDO.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

It sounds like you've got that one, Todd.

Todd Parnell – 5AM Solutions – CTO

The language is a little tricky because every SDO has a different notion of under review; balloted, approved and so I tried to make the language here kind of compatible with multiple SDOs.

Arien Malec – RelayHealth Clinical Solutions

I'm wondering whether we want to use the term that's in…what's the…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

HL7?

Arien Malec – RelayHealth Clinical Solutions

No, no, no, no the federal term of consensus bodies, what's the…now I'm losing my federaleze.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

In what bodies?

Arien Malec – RelayHealth Clinical Solutions

Consensus standards bodies, there is a well defined definition that was carefully crafted in OMB circular; hold on I'll get it.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

You could make it up and we wouldn't know the difference.

Arien Malec – RelayHealth Clinical Solutions

I often do.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Looking up consensus bodies I don't see.

Arien Malec – RelayHealth Clinical Solutions

OMB circular consensus, voluntary consensus standards, A-119.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

There is it, yes.

Arien Malec – RelayHealth Clinical Solutions

So, they created a term of voluntary consensus bodies to be open and inclusive, and in particular the term standards development organization implies to me that the organization is actually developing the standard and there are many voluntary consensus standards, activities that profile, that…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

Arien Malec – RelayHealth Clinical Solutions

Like IETF that serve as a well defined convenient place for creating and defining the standards.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And the other thing is that… like in IETF, you know, RFCs are, you know, a lot of them are very, very stable and, you know, widely, widely adopted, and there are still requests for comments, you know.

Arien Malec – RelayHealth Clinical Solutions

Right, that's right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So…

Todd Parnell – 5AM Solutions – CTO

But, that's what they would consider to be their formal standard, that's the terminal…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, no, because there are other RFCs that, you know, Joe Schmo threw together in his garage and put up there as an RFC.

Arien Malec – RelayHealth Clinical Solutions

That's right and they've got a formal term for internet standard as the highest level of standard adoption, but there are in fact some…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

There are… I don't know…

Arien Malec – RelayHealth Clinical Solutions

That are drafts.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, yeah, but there all RFCs. But, you know, maybe we can just interpret is as we're going along. Are there better words for this?

Arien Malec – RelayHealth Clinical Solutions

Well, the problem is there are… so I would advocate for the term voluntary consensus standards body as opposed to SDO and there are cases where, like ITEF or like W3C or HL7 where there are various levels that a standard can go through. So, I would look at high in this context as achieve the highest level in a voluntary consensus standard and is under, you know, long-term active update or something, but I guess that's not a requirement for others.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah. I think when Walter brought this up he was thinking more of the order of if there… and I think this is really the essence of what he said even, is if there had been, you know, under an SDO it should be more… they should be given extra brownie points kind of thing. I don't think he was thinking in terms of low or high, but maybe he was. But, I like the voluntary that sounds fine to me.

Todd Parnell – 5AM Solutions – CTO

All right, so if I were just to change this to say voluntary consensus body everywhere where it says SDO?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

Arien Malec – RelayHealth Clinical Solutions

Yes, and then the standards as a formal review, draft, provisional and then high would be accepted standard at the highest level of the voluntary consensus standards or bodies.

Todd Parnell – 5AM Solutions – CTO

Right.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

So, how are you going to title the SDO context and the overall title, are we going to still say SDO or are we going to say voluntary organization context?

Todd Parnell – 5AM Solutions – CTO

I was going with voluntary consensus body context.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability
In every instance, okay, thank you.

Todd Parnell – 5AM Solutions – CTO
Yeah, like just a straight, you know, textual search and replace there.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability
We may want to make the point that we view that as a…

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences
SDO.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability
Akin to an SDO, so people won't go "what the hell is this."

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences
E.g., SDO.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability
Yeah or something like that, yes.

Todd Parnell – 5AM Solutions – CTO
Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences
Okay, is that our last one? Yeah.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability
It better be.

Todd Parnell – 5AM Solutions – CTO
Oh, no, this was not a… that was the last one that we had a specific metric for but this one was a discussion item right here, this number, slide 7 that we're on.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability
Dixie, I know I have a hard stop in 4 minutes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences
Okay.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability
I don't know about others.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences
Why don't we… let me quickly give you the next steps and if you have comments on this particular… this was Jodi Daniels comment, if you have thoughts about it send it to Todd and me or to, you know, either/or. The next step is really to do our test case with the InfoButton specification which ONC is going to get us a copy of and we'll distribute. Todd has put together, done a nice job of putting together…I guess you'll need to do an update to that, right Todd, because we deleted one topic?

Todd Parnell – 5AM Solutions – CTO
Yeah, we, I believe… I'm going to have to go back and check my notes because we went back and forth and back and forth. We deleted continuity.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, so that's all you need to do, just delete that one and send it out or send it to me and or we'll send it to the team so that they can use… we'll send it with… when we distribute the InfoButton specifications we'll send you an update of the worksheet to use and then we'll individually do individual assessments and then come together and discuss it and hopefully come to consensus on it. So, with that can we open it up to the… MacKenzie?

MacKenzie Robertson – Office of the National Coordinator

Sure, operator can you please open the lines for public comment?

Caitlin Collins – Altarum Institute

Yes. If you are on the phone and would like to make a public comment please press *1 at this time. If you are listening via your computer speakers you may dial 1-877-705-2976 and press *1 to be placed in the comment queue. We do not have any comment at this time.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, thank you all again for dialing in, we really appreciate it and we will get you the InfoButton specifications as soon as we can. All right, thank you.

MacKenzie Robertson – Office of the National Coordinator

Thanks, everybody.

Cris Ross – Surescripts – Executive Vice President & General Manager, Clinical Interoperability

Thank you, Dixie.

Arien Malec – RelayHealth Clinical Solutions

Thank you.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Bye-bye.

Public Comment Received During the Meeting

1. Different parts of this stack are equivalent to different parts of SAML
2. With reference to Dixie's point about RHEx going beyond the scope of transport, transport alone does not handle the common need for links in messages. Links, for example can protect a streaming image that would be too large to send as an attachment.